

WHAT IS CLAIMED IS:

1. An electrical connector assembly comprising  
a plurality of body portions including:
  - 5 a first body portion;
  - a second body portion; and
  - a third body portion; and

wherein the first body portion is attached to the third body portion by a first hinge;

10 wherein the second body portion is attached to the third body portion by a second hinge;

wherein the third body portion includes an electrical connector device having at least two electrical contacts;

wherein the first body portion includes:

15 an end wall having an entry opening for receiving an electrical wire having at least first and second separate conductors each having an exposed end; and

first and second plurality of guiding posts extending outward a distance X from the inner surface of the first body portion and first and second ribs located between the first and second posts and extending outward a distance less than X

20 from the inner surface of the first body portion, the first and second plurality of guiding posts forming first and second guiding paths along which the first and second conductors are held in position from the entry opening to the electrical contacts before the first and second body portions are folded into an assembled configuration, with the exposed conducting ends of the first and second conductors attached to the electrical contacts;

25 wherein the second body portion includes:

third and fourth ribs extending from an inner surface of the second body portion, the third and fourth ribs being complementary to the first and second ribs, respectively, of the first body portion; and

wherein, when the first and second body portions are folded about the first and second hinges, respectively, with respect to the third body portion, with the first and second body portions secured together by a snap fastening arrangement comprising a first hook fastener and a second hook fastener where the first hook fastener has an opening 5 through which the electrical wire passes, the third body portion is securely held between the secured first and second body portions;

wherein, with the first and second body portions secured together, the first and second ribs engage the third and fourth ribs, respectively, to secure the first conductor between the first and third ribs along the first path and the second conductor 10 between the second and fourth ribs along the second path forming a strain relief combination of the first and second conductors by exerting a separate clamping force on the ends of the conductors; and

wherein, with the first and second body portions secured together, a first extension partially blocks the entry opening with the first and second conductors 15 extending therethrough.

2. The electrical connector assembly of claim 1, wherein the first hook fastener is a snap-clip having two openings with one opening allowing the electrical wire to pass therethrough and the other opening is used to secure the snap-clip to the first body portion. 20

3. The electrical connector assembly of claim 1, wherein the first plurality of extensions includes:

a first extension having a tapered side wall, with the first rib and the first extension forming the path for the electrical wire, with the tapered side wall guiding the 25 fed electrical wire to the electrical contact.

4. The electrical connector assembly of claim 1, wherein the first body portion includes:

an interlock tab; and

wherein the third body portion includes:

5 an interlock slot into which the interlock tab is inserted during the folding together of the first and second body portions, with the interlock tab disposed in the interlock slot preventing the third body portion from disengaging from the first body portion if either of the first and second hinges is broken.

10 5. The electrical connector assembly of claim 1, wherein the hinges are resilient hinges.

6. The electrical connector assembly of claim 1, wherein the first, second, and third body portions and the first and second hinges are integrally formed, with the 15 first and second hinges being resilient living hinges between the respective body portions.

7. The electrical connector assembly of claim 1, wherein the second body portion includes:

20 a second hook fastener extending from and integral with the second body portion;

wherein the first body portion includes:

a first hook fastener having an opening through which the electrical wire passes and said first hook fastener engages the second hook fastener to secure the first and second body portions together.

5           8.       The electrical connector assembly of claim 1, wherein the third body portion includes:

              a plurality of slots; and

              wherein each of the first and second body portions includes:

              a tab which fits into a respective slot of the third body portion

10       wherein the first and second body portions are folded together, thereby securing the third body portion to the respective body portion of the respective tab.

9.       The electrical connector assembly of claim 1, wherein the first plurality of extensions includes:

15           a first extension having a slot; and

              wherein the third body portion includes:

              a rib which fits into the slot of the first extension wherein the first and second body portions are folded together, thereby securing the third body portion to the first extension.

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10.      The electrical connector assembly of claim 1, wherein the first body portion includes:

an elongated slot extending along a portion of a longitudinal length

of the first body portion; and

wherein the second body portion includes:

an elongated rib extending along a portion of a longitudinal length

5 of the second body portion and being complementary to the elongated slot of the first body portion;

wherein, when the first and second body portions are folded together, the elongated rib fits into the elongated slot, thereby securing the second body portion to the first body portion.

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11. The electrical connector assembly of claim 10, wherein the first body portion includes:

a side wall indented outward from the interior of the first body portion to form the elongated slot.

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12. An electrical connector assembly comprising a plurality of body portions including:

a first body portion;

a second body portion; and

20 a third body portion; and

wherein the first body portion is attached to the third body portion by a first hinge;

wherein the second body portion is attached to the third body portion by a second hinge;

wherein the second body portion is attached to the third portion by a second hinge;

wherein the third body portion includes an electrical connector device having at least two electrical contacts;

5 wherein the first body portion includes:

a first hook fastener extending from and integral with the first body portion;

an end wall having an entry opening for receiving an electrical wire having at least first and second conductors each having an exposed end; and

10 first and second plurality of guiding posts extending outward a distance X from the inner surface of the first body portion and first and second ribs located between the first and second posts and extending outward a distance less than X from the inner surface of the first body portion, the first and second plurality of guiding posts forming first and second guiding paths around the fastener receiving socket, with  
15 the first and second conductors being held in position along the first and second guiding paths from the entry opening to the electrical contact before the first and second body portions are folded into an assembled configuration with an exposed conducting end of each of the conductors attached to an electrical conduct;

wherein the second body portion includes:

20 a second hook fastener extending from and integral with the second body portion; and

third and fourth ribs, extending from an inner surface of the second body portion, the third and fourth ribs being complementary to the first and second ribs, respectively, of the first body portion; and

25 wherein, when the first and second body portions are folded about the first and second hinges, respectively, with respect to the third body portion, with the first and second body portions secured together by the first hook fastener engaging the second hook fastener forming a snap fastening arrangement, the third body portion is securely held between the secured first and second body portions;

wherein, with the first and second body portions secured together, the first and second pairs of ribs engage the third and fourth ribs, respectively, to secure the first conductor between the first and third ribs along the first path and the second conductor between the second and fourth ribs along the second path forming a strain relief  
5 combination on the first and second conductors by exerting a separate clamping force on each of the conductors; and

wherein, with the first and second body portions secured together, a first extension partially blocks the entry opening with the first and second conductors extending therethrough and further extending through an opening in the first hook  
10 fastener.

13. The electrical connector assembly of claim 12, wherein the first hook fastener is a snap-clip having two openings with one opening allowing the electrical wire to pass therethrough and the other opening is used to secure the snap-clip to the first body  
15 portion.

14. The electrical connector assembly of claim 12, wherein the first plurality of extensions includes:  
a first extension having a pair of tapered side walls, with the first pair of  
20 ribs and the pair of tapered side walls of the first extension forming the path for the electrical wire around the fastener receiving socket, with the pair of tapered side walls guiding the fed electrical wire to the electrical contact.

15. The electrical connector assembly of claim 12, wherein the first body  
25 portion includes:

an interlock tab; and

wherein the third body portion includes:

an interlock slot into which the interlock tab is inserted during the folding together of the first and second body portions, with the interlock tab disposed in  
5 the interlock slot preventing the third body portion from disengaging from the first body portion if either of the first and second hinges is broken.

16. The electrical connector assembly of claim 12, wherein the hinges are resilient hinges.

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17. The electrical connector assembly of claim 12, wherein the first, second, and third body portions and the first and second hinges are integrally formed, with the first and second hinges being resilient living hinges between the respective body portions.

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18. The electrical connector assembly of claim 12, wherein the third body portion includes:

a plurality of slots; and

wherein each of the first and second body portions includes:

a tab which fits into a respective slot of the third body portion

20 wherein the first and second body portions are folded together, thereby securing the third body portion to the respective body portion of the respective tab.

19. The electrical connector assembly of claim 12, wherein the first plurality of extensions includes:

a first extension having a slot; and

wherein the third body portion includes:

5 a rib which fits into the slot of the first extension wherein the first and second body portions are folded together, thereby securing the third body portion to the first extension.

20. The electrical connector assembly of claim 12, wherein the first body portion includes:

an elongated slot extending along a portion of a longitudinal length of the first body portion; and

wherein the second body portion includes:

15 an elongated rib extending along a portion of a longitudinal length of the second body portion and being complementary to the elongated slot of the first body portion;

wherein, when the first and second body portions are folded together, the elongated rib fits into the elongated slot, thereby securing the second body portion to the first body portion.

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21. The electrical connector assembly of claim 20, wherein the first body portion includes:

a side wall indented outward from the interior of the first body portion to form the elongated slot.

22. An electrical connector assembly comprising

5 a plurality of body portions including:

    a first body portion;

    a second body portion; and

    a third body portion; and

    wherein the first body portion is attached to the third body portion by a

10 first hinge;

    wherein the second body portion is attached to the third body portion by a second hinge;

    wherein the first, second and third body portions and the first and second hinges form an unfolded split body configuration extending longitudinally;

15     wherein the third body portion includes an electrical connector device having at least two electrical contacts;

    wherein the first body portion includes:

        a first hook fastener;

        an end wall having an entry opening for receiving an electrical

20 wire having at least first and second conductors each having an exposed end; and

        first and second guiding posts extending outward a distance X from the inner surface of the first body portion and first and second ribs located between the first and second posts and extending outward a distance less than X from the inner surface of the first body portion, the first and second plurality of guiding posts forming

25 first and second guiding paths around the fastener receiving socket, with the conductors of the electrical wire being held in position along the first and second conductors guiding path from the entry opening to the electrical contacts before the first and second body

portions are folded into an assembled configuration, with the exposed conducting ends of the first and second conductors attached to the electrical contacts;

wherein the second body portion includes:

a second hook fastener; and

5                   third and fourth ribs extending from an inner surface of the second body portion, the third and fourth ribs being complementary to the first and second ribs, respectively, of the first body portion; and

10                  wherein, when the first and second body portions are folded about the first and second hinges, respectively, from the unfolded split body configuration about a transverse axis perpendicular to the longitudinal length of the split body, with respect to the third body portion, with the first and second body portions secured together by the single screw passed through the single screw aperture and securely engaging the single screw-receiving socket, the third body portion is securely held between the secured first and second body portions;

15                  wherein, with the first and second body portions secured together by the engagement of the first hook fastener to the second hook fastener forming a snap fastening arrangement, the first and second ribs engage the third and fourth ribs, respectively, to secure the first conductor between the first and third ribs along the first path and the second conductor between the second and fourth ribs along the second path, 20 forming a strain relief combination of the first and second conductors by exerting a separate clamping force on each of the conductors; and

                        wherein, with the first and second body portions secured together, a first extension partially blocks the entry opening with the first and second conductors extending therethrough.

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23.           The electrical connector assembly of claim 22, wherein the first hook fastener is a snap-clip having two openings with one opening allowing the electrical wire

to pass therethrough and the other opening is used to secure the snap-clip to the first body portion.